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Faust et al.

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(54) **TELESCOPIC ORTHODONTIC APPLIANCE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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(58) **Field of Classification Search**

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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,798,773 A 3/1974 Northcutt
4,462,800 A * 7/1984 Jones **A61C 7/36**
433/19

(Continued)

FOREIGN PATENT DOCUMENTS

DE 29818960 1/1999
EP 1345547 B1 3/2011
WO 2013096090 6/2013

OTHER PUBLICATIONS

Miniscope Telescoping Herbst, www.americanortho.com, 17 pages, 2011.

(Continued)

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(57) **ABSTRACT**

An orthodontic appliance includes a telescopic assembly with an end tube and a telescopic member. A distal connector secured to the end tube at a generally distal end of the telescopic assembly. An end cap engages the distal end of the end tube. A spring is secured to the end cap and extends coaxially within the cover and the end tube. The spring is configured to impart a biasing force against the distal end of the telescopic member.

14 Claims, 9 Drawing Sheets

